

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number  
**WO 2005/062728 A2**

(51) International Patent Classification: Not classified

(21) International Application Number:  
PCT/KR2004/002730

(22) International Filing Date: 27 October 2004 (27.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10-2003-0097867  
26 December 2003 (26.12.2003) KR

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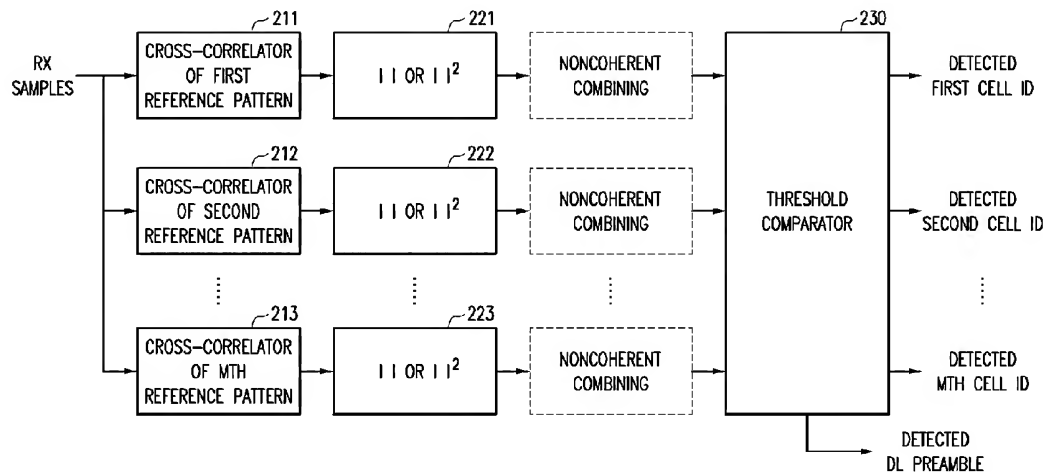
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(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

[Continued on next page]

(54) Title: METHOD FOR CONSTRUCTING FRAME PREAMBLE IN OFDM WIRELESS COMMUNICATION SYSTEM, AND METHOD FOR ACQUIRING FRAME SYNCHRONIZATION AND SEARCHING CELLS USING PREAMBLE



(57) Abstract: Disclosed are a method for constructing a frame preamble in an OFDM wireless communication system, and a method for acquiring frame synchronization and searching cells using the preamble. The preamble is arranged at the beginning of a frame and constructed of a pattern repeated an integer number of times, and a CP. The pattern has a length shorter than a single OFDM symbol interval. The length of the repetitive pattern is not limited to an integer number of times a single OFDM symbol interval. Frame synchronization can be acquired by observing cross-correlation of a received signal and reference patterns and detecting the moment when the absolute value of the cross-correlation exceeds a predetermined threshold. Otherwise, frame synchronization can be acquired by observing auto-correlation of the received signal using repeated patterns included in the received signal and detecting the moment when the absolute value of the auto-correlation becomes the maximum value.

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GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

**(84) Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

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